

Message

**From:** Sweeney, Stephen [/O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=37AE2B769EAB4231BDF19334E3651814-SSWEENEY]  
**Sent:** 11/19/2015 3:19:23 PM  
**To:** Cora, Lori [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=c8850941bf1540c796559dce75c2f5ee-Cora, Lori]  
**Subject:** RE: NOAA data stations for pteropod study

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**From:** Cora, Lori  
**Sent:** Thursday, November 19, 2015 10:12 AM  
**To:** Sweeney, Stephen <Sweeney.Stephen@epa.gov>  
**Subject:** RE: NOAA data stations for pteropod study

Hi, Steve.

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Lori Houck Cora | Assistant Regional Counsel  
U.S. Environmental Protection Agency | Region 10  
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**From:** Sweeney, Stephen  
**Sent:** Wednesday, November 18, 2015 1:27 PM  
**To:** Owens, Kim <Owens.Kim@epa.gov>; Cora, Lori <Cora.Lori@epa.gov>  
**Subject:** RE: NOAA data stations for pteropod study

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**From:** Owens, Kim  
**Sent:** Wednesday, November 18, 2015 4:23 PM  
**To:** Cora, Lori <Cora.Lori@epa.gov>; Sweeney, Stephen <Sweeney.Stephen@epa.gov>  
**Subject:** RE: NOAA data stations for pteropod study

Added note – Washington has not extended the proposed no-discharge zone into the Strait of Juan de Fuca, so the concern does not arise there.

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**From:** Cora, Lori  
**Sent:** Wednesday, November 18, 2015 12:42 PM  
**To:** Sweeney, Stephen <Sweeney.Stephen@epa.gov>; Owens, Kim <Owens.Kim@epa.gov>  
**Subject:** FW: NOAA data stations for pteropod study

This is the last message I have regarding where the data stations are in relation to nautical miles off of Washington and Oregon. However, Marty doesn't say if any were in the Strait of Juan De Fuca.

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**From:** Jacobson, Martin

**Sent:** Monday, November 16, 2015 4:13 PM

**To:** Fullagar, Jill <[Fullagar.Jill@epa.gov](mailto:Fullagar.Jill@epa.gov)>; Cora, Lori <[Cora.Lori@epa.gov](mailto:Cora.Lori@epa.gov)>

**Cc:** Labiosa, Rochelle <[labiosa.rochelle@epa.gov](mailto:labiosa.rochelle@epa.gov)>

**Subject:** RE: Brian, Tanya R10 request for OA help

Hey Jill,

I looked at OR and WA stations in respect to nautical miles (1.15 nautical mile = 1 mile). There are none within 3 nautical miles. I looked at the CA stations and it appears that 4 lie within (or pretty close) 3 miles from the coast. These are stations 57, 65, 87, and 95.

Marty

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**From:** Fullagar, Jill

**Sent:** Monday, November 16, 2015 3:59 PM

**To:** Cora, Lori; Jacobson, Martin

**Cc:** Labiosa, Rochelle

**Subject:** FW: Brian, Tanya R10 request for OA help

Hi Lori and Marty,

Rochelle had some questions about

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Marty—could you use the link below to double check? Lori—

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As a side note—Rochelle—Cheryl said she thought the ones within 3 miles are in CA. Marty—can you confirm if there are any for CA? If so, we should probably give HQ and R9 a heads up about that. Thanks all. I'm about to take off and will be out tomorrow, but back on Wed. Thanks.

jill

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Jill Fullagar, Impaired Waters Coordinator  
Watershed Unit, Office of Water and Watersheds

ED\_002660K\_00030457-00002

US EPA, Region 10  
1200 Sixth Avenue, Suite 900 (OWW-192)  
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[fullagar.jill@epa.gov](mailto:fullagar.jill@epa.gov)

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**From:** Rochelle Labiosa [mailto: ] **Personal Privacy / Ex. 6**  
**Sent:** Monday, November 16, 2015 3:42 PM  
**To:** Fullagar, Jill <[Fullagar.Jill@epa.gov](mailto:Fullagar.Jill@epa.gov)>  
**Subject:** Re: Brian, Tanya R10 request for OA help

Just left you a VM problem is the continental shelf and **Attorney Client / Deliberative Process / Ex. 5**

**Attorney Client / Deliberative Process / Ex. 5**

Does Marty have NOAA nautical charts that apply? They have the 3nm lines. **Attorney Client / Deliberative Process / Ex. 5**

See e.g. <http://www.charts.noaa.gov/OnLineViewer/18400.shtml>

Sent from my iPhone

On Nov 16, 2015, at 3:10 PM, Fullagar, Jill <[Fullagar.Jill@epa.gov](mailto:Fullagar.Jill@epa.gov)> wrote:

Hi Rochelle,

That's weird about the email. It just autofilled when I started typing your name. Hmm, it looks like if I start with Rochelle, it autofills the gmail, if I start with Labiosa, it puts in the EPA one. Good to know.

My impression from talking with Nina was that **Attorney Client / Deliberative Process / Ex. 5**

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I will just double check with Nina, but if that's the case, then that might be that. Thanks.

jill

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Jill Fullagar, Impaired Waters Coordinator  
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---

**From:** Rochelle Labiosa [mailto: ] **Personal Privacy / Ex. 6**  
**Sent:** Monday, November 16, 2015 3:06 PM  
**To:** Fullagar, Jill <[Fullagar.Jill@epa.gov](mailto:Fullagar.Jill@epa.gov)>  
**Subject:** Re: Brian, Tanya R10 request for OA help

Hi Jill- this was sent to my gmail, but I appreciate it bc wifi is not working at my conference. In my previous email, there were two or three stations that Nina identified as within 200 m of shore. I don't remember which ones and therefore which lat longs correspond- worth following up, since I did not check them myself **Attorney Client / Deliberative Process / Ex. 5**

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Sent from my iPhone

On Nov 16, 2015, at 2:43 PM, Fullagar, Jill <Fullagar.Jill@epa.gov> wrote:

Hi Brian,

I'll respond more fully to your email later. For now, I wanted to let you know Marty Jacobson, my ORISE intern, checked all the lat/longs using GIS

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This is contrary to what the author told me, and I believe the impression Rochelle had as well, so I'll follow up with the author to confirm. Stay tuned.

jill

Jill Fullagar, Impaired Waters Coordinator  
Watershed Unit, Office of Water and Watersheds  
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[fullagar.jill@epa.gov](mailto:fullagar.jill@epa.gov)

**From:** Rappoli, Brian

**Sent:** Monday, November 16, 2015 8:59 AM

**To:** Fullagar, Jill <Fullagar.Jill@epa.gov>; Furtak, Sarah <Furtak.Sarah@epa.gov>

**Cc:** Code, Tanya <Code.Tanya@epa.gov>; Monschein, Eric <Monschein.Eric@epa.gov>

**Subject:** FW: Brian, Tanya R10 request for OA help

Jill and Sarah

Here are my initial thoughts on the papers submitted by CBD:

*Shell Condition and Survival of Puget Sound Pteropods Are Impaired by Ocean Acidification Conditions* (Busch et al, 2014)

Experiments were conducted at the NOAA Northwest Fisheries Science Center

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*The Pacific oyster, Crassostrea gigas, shows negative correlation to naturally elevated carbon dioxide levels* (Hales et al, 2012)

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This is an 'old' paper. Hasn't it been previously submitted?)

*Persistent carry-over effects of planktonic exposure to ocean acidification in the Olympia oyster* (Hettinger et al, 2012)

Experiments were conducted at the Bodega Marine Laboratory, not in state waters; consequently, the results cannot be used as evidence regarding water quality.  
*Potential impacts of ocean acidification on the Puget Sound food web* (Busch et al, 2013)  
 This study employs a food web model for the central basin of Puget Sound. The authors state "...results of this modelling exercise should be considered more from a conceptual level than as a quantitative prediction about what will happen to the Puget Sound food web...."  
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*Ocean Acidification Has Multiple Modes of Action on Bivalve Larvae* (Waldbusser et al, 2015)

Experiments were conducted at the Hatfield Marine Science Center  
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*Limacina helicina* shell dissolution as an indicator of declining habitat suitability (Bednarsek et al, 2014)

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**Attorney Client / Deliberative Process / Ex. 5** Here is the supplementary data for sampling locations.

**Table S1.** The position and depth of samples containing *Limacina helicina helicina* f. *pacifica* collected with a 333 µm mesh vertical Bongo net over the vertically integrated depth of 100 m at the investigated stations, along with depth-integrated abundance (ind m<sup>-2</sup>), shell size range (mm), life stage in the fraction of the undersaturated ( $\Omega < 1$ ) water. For dissolution analyses, samples size (N) and the proportion of severe (Type II and Type III) dissolution are provided.

station No.	lat	long	sampling depth (m)	fraction of water ( $\Omega < 1$ ) (upper 100 m)	depth-integrated abundance (ind m <sup>-2</sup> )	shell size range (mm)	life stage J=juvenile, SA=subadult	sample size (N)	severe dissolution (prop)
6	48.377	124.972	0-100	83.0	19	0.5-2	J, SA	7	0.
13	47.113	124.637	0-100	77.6	68	0.5-2	J, SA	5	0.
14	47.113	124.350	0-100	40.0	86	0.5-2	J, SA	9	0.
15	46.126	124.095	0-100	83.3	102	0.5-2	J, SA	3	1.
21	46.125	125.732	0-100	0.0	104	1-2.5	J, SA	4	0.
28	44.646	124.289	0-100	82.9	77	0.5-2	J, SA	12	0.
29	44.633	124.400	0-100	65.1	122	0.5-2	J, SA	4	0.
31	44.633	124.833	0-100	40.1	252	1-2.5	J, SA	4	0.
37	44.200	124.975	0-100	31.0	134	1-2.5	J, SA	3	0.
57	40.246	124.384	0-100	15.2	389	0.5-2	J, SA	7	0.

61	40.103	-	0-100	12.0	445	0.5-2	J	12	0
65	38.300	-	0-100	52.6	14267	0.5-1	J	5	0
69	37.762	-	0-100	13.0	700	0.5-2	J, SA	4	0
73	36.668	-	0-100	0.0	6	0.5-2	J, SA	4	
75	36.524	-	0-100	30.0	15	0.5-1	J	4	0
87	34.433	-	0-100	0.0	1	0.5-1	J	4	
95	33.488	-	0-100	0.0	15	0.5-2	J, SA	4	

If some of the data is from state waters, then we should discuss.

Hope this helps,  
Brian

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**From:** Furtak, Sarah  
**Sent:** Tuesday, November 10, 2015 5:15 PM  
**To:** Rappoli, Brian <Rappoli.Brian@epa.gov>; Code, Tanya <Code.Tanya@epa.gov>  
**Subject:** Brian, Tanya R10 request for OA help

Brian and Tanya,  
Jill offered for you to contact Jill directly with any questions if you'd prefer that approach. Alternatively, I'm happy to aggregate questions on the articles that you send to me. Either way, I will plan to check in with you on Nov. 17.  
Sarah

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**From:** Furtak, Sarah  
**Sent:** Tuesday, November 10, 2015 2:39 PM  
**To:** Rappoli, Brian <Rappoli.Brian@epa.gov>; Code, Tanya <Code.Tanya@epa.gov>  
**Cc:** Chemerys, Ruth <Chemerys.Ruth@epa.gov>  
**Subject:** Brian, Tanya R10 request for OA help

Hi Brian and Tanya,  
Per our discussion, attached are the articles from Jill in Region 10. I understand these were cited by Ctr. For Biological Diversity (CBD), and Jill has reached out to us – Ruth, Chris, Jamie, myself (along with Jill's WQS and ORD counterparts) for input as to

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Attorney Client / Deliberative Process / Ex. 5 I understand the first and second articles are those that Jill feels are the highest priority for our review.

My target for providing aggregate input to Jill is Nov. 20. I will plan to check in with you Nov. 17 on progress of your review. Does Nov. 17 sound like a reasonable target for your review?

If you have any specific questions on the articles, please plan to capture those for Jill.

Oregon Statewide Narrative Criteria (OAR 340-41-007). The relevant narrative criteria are as follows:

“(1) Notwithstanding the water quality standards contained in this Division, the highest and best practicable treatment and/or control of wastes, activities, and flows must in every case be provided so as to maintain dissolved oxygen and overall water quality at the highest possible levels and water temperatures, coliform bacteria concentrations, dissolved chemical substances, toxic materials, radioactivity, turbidities, color, odor, and other deleterious factors at the lowest possible levels.

(11) The creation of tastes or odors or toxic or other conditions that are deleterious to fish or other aquatic life or affect the potability of drinking water or the palatability of fish or shellfish may not be allowed;

WA Aquatic Life Narrative **WAC 173-201A-260**

**Natural conditions and other water quality criteria and applications.**

(2) **Toxics and aesthetics criteria.** The following narrative criteria apply to all existing and designated uses for fresh and marine water:

(a) Toxic, radioactive, or deleterious material concentrations must be below those which have the potential, either singularly or cumulatively, to adversely affect characteristic water uses, cause acute or chronic conditions to the most sensitive biota dependent upon those waters, or adversely affect public health (see WAC 173-201A-240, toxic substances, and 173-201A-250, radioactive substances).

Thanks!

Sarah

**Sarah Furtak**

U.S. Environmental Protection Agency

Office of Wetlands, Oceans, and Watersheds

Assessment and Watershed Protection Division

Watershed Branch

William Jefferson Clinton Federal Building West, Room 7330-A, Mail Code 4503-T

1301 Constitution Avenue, NW

Washington, DC 20004

Phone: (202) 566-1167

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**From:** Chemerys, Ruth

**Sent:** Tuesday, November 03, 2015 8:26 AM

**To:** Furtak, Sarah <[Furtak.Sarah@epa.gov](mailto:Furtak.Sarah@epa.gov)>

**Subject:** FW: Could use some OA help

Sarah-

Keeping you in the loop as well....I won't have time to review before I leave for my trip tomorrow, but would have time next week...

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**From:** Fullagar, Jill

**Sent:** Monday, November 02, 2015 4:29 PM

**To:** Brown, Cheryl A. <Brown.Cheryl@epa.gov>; Labiosa, Rochelle <labiosa.rochelle@epa.gov>; Chemerys, Ruth <Chemerys.Ruth@epa.gov>; Fowler, Jamie <Fowler.Jamie@epa.gov>; Lewicki, Chris <Lewicki.Chris@epa.gov>

**Subject:** Could use some OA help

Hi all,

The time has come when I could use a second opinion on some OA articles. If you could take a look and let me know if you think **Attorney Client / Deliberative Process / Ex. 5**

**Attorney Client / Deliberative Process / Ex. 5** I would really appreciate it. I think the most potentially relevant articles are the first two attached above, so if you have limited time, just take a look at those two, if you can. Thank you so much, and let me know if you have questions.

jill

Oregon Statewide Narrative Criteria (OAR 340-41-007). The relevant narrative criteria are as follows:

“(1) Notwithstanding the water quality standards contained in this Division, the highest and best practicable treatment and/or control of wastes, activities, and flows must in every case be provided so as to maintain dissolved oxygen and overall water quality at the highest possible levels and water temperatures, coliform bacteria concentrations, dissolved chemical substances, toxic materials, radioactivity, turbidities, color, odor, and other deleterious factors at the lowest possible levels.

(11) The creation of tastes or odors or toxic or other conditions that are deleterious to fish or other aquatic life or affect the potability of drinking water or the palatability of fish or shellfish may not be allowed;

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